I. C. 6809

OCTOBER 1934

DEPARTMENT OF THE INTERIOR

UNITED STATES BUREAU OF MINES
JOHN W. FINCH, DIRECTOR

INFORMATION CIRCULAR

COAL-MINE FATALITIES IN KENTUCKY IN 1931, 1932, AND 1933

BY

JOSEPH F. DAVIES AND H. B. HUMPHREY

Generated on 2024-09-17 16:59 GMT / https://hdl.handle.net/2027/osu.32435030644082
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google

Digitized by Google

Original from
THE OHIO STATE UNIVERSITY

I.C. 6809
October, 1934

INFORMATION CIRCULAR

DEPARTMENT OF THE INTERIOR - BUREAU OF MINES

COAL-MINE FATALITIES IN KENTUCKY IN 1931, 1932, AND 1933[1]

By Joseph F. Davies[2] and H. B. Humphrey[3].

To gain knowledge of the actual accident hazards present in Kentucky coal mines, reports of fatalities during 1931, 1932, and 1933 have been analyzed and the pertinent factors included in tables, accompanied by some discussion and recommendations for the reduction of accidents from particular causes.

ACKNOWLEDGMENT

This study was made possible through the cooperation of John F. Daniel, chief of the Kentucky Department of Mines, who made available department records, in addition to the monthly bulletine issued by his office reporting these fatalities.

FATALITIES CONSIDERED

Fatalities chargeable to the mining industry, and to small domestic operations which employ fewer than six men and do not come under the supervision of the Department of Mines, are included in this study, since the purpose is to consider all fatalities, regardless of whether or not they come under the jurisdiction of the State mine inspectors. To promote safer working practices the chief of the department has recommended that all mines in the State be placed under his supervision; this appears to be a logical recommendation.

1/ The Bureau of Mines will welcome reprinting of this paper, provided the following footnote acknowledgment is used: "Reprinted from U.S. Bureau of Mines Information Circular 6809".

2/ District engineer, U.S. Bureau of Mines Safety Station, Norton, Va.
3/ Assistant mining engineer, U.S. Bureau of Mines Safety Station, Norton, Va.

Generated on 2024-09-17 16:57 GMT / https://hdl.handle.net/2027/osu.32435030644082
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from THE OHIO STATE UNIVERSITY

TABLE 1. - Comparative fatality ratings for several principal coal-producing States, 1931-33

State	Fatalities per million tons			Fatalities per million man-hours		
	1931	1932	1933 1/	1931	1932	1933 1/
Illinois	2.08	3.56	1.97	1.68	2.80	1.55
Indiana	3.99	2.33	1.78	3.71	2.51	1.92
Kentucky	2.75	2.89	2.70	1.76	1.92	1.79
Ohio	2.99	2.59	2.61	1.74	1.52	1.52
Pennsylvania (bit.)	2.15	2.17	1.77	1.29	1.26	1.03
Virginia	3.19	9.62	2.15	1.81	6.16	1.37
West Virginia	3.46	3.12	2.73	2.53	2.32	2.03
United States aver. (bit.)	2.83	3.09	2.38	1.81	2.00	1.54

1/ All figures for 1933 are preliminary and subject to revision.

Tables 1 and 2 compare the production and fatality rates of Kentucky with those of other principal coal-mining States. For years Kentucky has been fourth in tonnage mined, but in 1932 Illinois fell slightly behind, and Kentucky moved to third place. In 1933 Kentucky was third in man-hours worked, since mechanical mining has not been adopted there as widely as in Illinois. In 1933 Kentucky ranked third in number of fatalities. A glance at the rates in table 1 shows that Kentucky stood a little above the average in 1931 and 1932 but was below the average in 1933. The States mentioned had better records in 1932 than in 1931, except Illinois, Kentucky, and Virginia, where major explosion disasters took heavy toll of life. In 1933 West Virginia had the highest fatality rate and Kentucky the second highest.

TABLE 2. - Tonnage, man-hours, and fatalities for principal coal-mining States

State	Tonnage		Man-hours	Fatalities
	1932	1933 1/	1933 1/	1933 1/
Illinois	33,474,553	36,110,000	45,766,800	71
Indiana	13,323,573	13,500,000	12,488,400	24
Kentucky	35,299,582	35,530,000	53,589,700	96
Ohio	13,909,451	19,960,000	34,119,700	52
Pennsylvania (bit.)	74,775,862	79,770,000	137,061,900	141
Virginia	7,692,180	8,390,000	13,109,400	18
West Virginia	85,608,735	90,770,000	122,002,700	248
United States aver. (bit.)	309,709,872	327,940,000	507,647,000	782

1/ All figures for 1933 are preliminary and subject to revision.

Generated on 2024-09-17 16:56 GMT / https://hdl.handle.net/2027/osu.32435030644082
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from THE OHIO STATE UNIVERSITY

CAUSES OF ACCIDENTS

Fatal accidents for the 3 years are grouped in table 3 to show the relative importance of the causes. The proportion of deaths from each cause is about that usually found in other States and in the country as a whole.

Roof-fall accidents averaged 59 percent for the 3-year period--the United States average for 1931. The reduction in number of accidents from roof-falls in 1932 and 1933 probably was due chiefly to an active safety campaign conducted by the Kentucky Department of Mines and regional operators' associations.

Underground haulage accidents caused 15.8 percent of the fatalities during the 3 years compared with 16 percent for the United States in 1931. The significant fact is that these deaths were greater in number and ratio in 1933. The reasons for this increase are discussed later in detail.

Gas and dust explosions caused about 3 percent of the deaths in 1931 and 1933 and about 23 percent in 1932. The average for the 3 years was 9.4 percent; the average for the United States in 1931 was 6.2 percent.

Deaths from mining machines increased during the 3 years and averaged 2.9 percent of the total, which is higher than similar figures for other States.

Electric shock caused 5.8 percent of the fatalities, mostly because of low trolley wires. The average from this cause for the United States was 4.5 percent in 1931.

Explosives caused only 1 percent of fatal accidents, a somewhat lower percentage than for other States.

Haulage fatalities predominate on the surface and those from tipple accidents are second.

TABLE 3. - Fatalities by causes, Kentucky coal mines, 1931-33

Cause of accident	Number of fatalities			Total for 3-year period	Percentage of total for 3-year period
	1931	1932	1933		
Underground:					
Falls of roof	77	51	54	182	59.0
Haulage	15	15	19	49	15.8
Gas and dust explosions	3	23	3	29	9.4
Mining machines	1	3	5	9	2.9
Electricity	7	6	5	18	5.8
Explosives	1	0	2	3	1.0
Miscellaneous	1	1	-	2	.6
	105	99	88	292	94.5
Outside:					
Machinery	1	1	3	5	1.6
Haulage	3	1	2	6	2.0
Electricity	0	1	0	1	.3
Other causes	1	1	3	5	1.6
	5	4	8	17	5.5
Grand total	110	103	96	309	100.0

Generated on 2024-09-17 17:04 GMT / https://hdl.handle.net/2027/osu.32435030644082
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from THE OHIO STATE UNIVERSITY

OCCUPATIONS OF MEN KILLED

The fatalities for each year are grouped according to occupation in table 4. The number employed in the various occupations was estimated from representative figures on mines scattered over the State compiled by the writers. The approximate percentages killed in the various occupations were calculated from these figures; although not exact, these ratios are considered to be fairly close for comparative purposes.

Machine crews and trip riders are shown to have almost equal hazards, with 0.43 and 0.42 percent killed yearly; their occupations appear to be the most hazardous in the Kentucky coal mines. Similar figures for Pennsylvania (Bureau of Mines Inf. Circ. 6505) are 0.33 and 0.47 percent. In the 3-year period 75 percent of the deaths of machine men or helpers were caused by slate falls, 14 percent by haulage accidents, 8 percent by mining machines, and 3 percent by electric shock. Of the 26 trip riders or couplers killed, 23 percent met death in slate-fall accidents, 70 percent in haulage accidents, and 7 percent by electric shock.

Drivers had the next highest rating, with 0.40 percent; and motormen had 0.26 percent killed. Haulage accidents caused 61 percent of the deaths and slate falls, electricity, and miscellaneous accidents 13 percent each.

Of all loaders and miners employed, 0.23 percent were killed, which is about the same as for Pennsylvania (Inf. Circ. 6505). Of the 175 killed in the 3 years, 73 percent were killed by slate falls or coal bumps, 13 percent by dust and gas explosions, 6 percent by haulage accidents, 5 percent by electric shock, 2 percent by explosives and fumes from explosives, and the rest by various other mishaps.

Slatemen, track and timbermen, shot firers, and fire bosses had risks above the average, and 0.28 to 0.33 percent were killed. An average of about 0.14 to 0.15 percent of the surface workers was killed and 0.25 percent of surface and underground workers.

AGE AND EXPERIENCE OF MEN KILLED

Some persons claim that young men as a class are more liable to suffer accidental injury and others that older men are more liable. Inexperience also is commonly considered a prominent factor. To obtain some information about such contentions the ages and years of experience of those killed during the 3 years in Kentucky coal mines were tabulated. The average age of victims was found to be 34 years. The age range was 17 to 65 years; 17 victims were under 21, 27 were 50 or over, and 265 were between 21 and 50; 5.5 percent were under 21 years, 8.5 percent were over 50, and 86 percent were between those ages. Although figures are lacking as to the number employed, grouped by ages, it appears that older men may be somewhat more prone to fatal accidents than the very young. This may be due to slow movement, impaired senses of sight and hearing, and a combination of "set" ways and chance-taking bred of long escape from consequences. It is likely that there is also a high proportion of steady and careful older men working in these mines.

Generated on 2024-09-17 16:58 GMT / https://hdl.handle.net/2027/osu.32435030644082
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from THE OHIO STATE UNIVERSITY

TABLE 4. - Fatalities according to occupation in Kentucky coal mines, 1931-33

Occupation	No. killed				Percentage of total no. of employees in each occupation 1/	Percentage killed of total no. of employees 1/
	1931	1932	1933	Total		
Loader or miner	63	66	46	175	60.0	0.23
Machine man and helper	17	8	12	37	7.0	.43
Motorman	6	5	5	16	5.0	.26
Trip rider	7	10	9	26	5.0	.42
Driver	2	1	1	4	.8	.40
Trapper	0	0	2	2	.2	
Trackman and timberman	5	0	3	8	2.0	.32
Slateman	2	2	3	7	2.0	.28
Shot firer and fire boss	1	1	2	4	1.0	.33
Laborer	2	2	3	7	3.0	.19
Foreman and assistant	1	2	2	5	2.0	.20
Engineers	0	0	3	3	.5	
Tipple crew	3	4	2	9	5.0	.15
Hoistman	0	0	1	1	2.0	
Surface crew and miscellaneous	1	2	2	5	3.0	.14
	110	103	96	309	98.5	.25

1/ Approximate.

The average length of experience of those killed in the 3 years was 13 years; only 2 percent of those killed had had less than 1 year's work in the mines, while over 20 percent had worked 20 years or longer. Apparently quality of experience and supervision, as well as numerous other factors, are much more important in producing safe workmen than mere length of service.

NUMBER OF DEPENDENTS AND NATIONALITY OF MEN KILLED

The average number of dependents left by the victims during these 3 years was 3 for each death. About 13 percent had no dependents, 17 percent had 6 to 12 each, and 70 percent had 1 to 5.

Tabulation of the victims by nationality shows that 76.8 percent were native white Americans, 16.5 percent negroes, and 6.7 percent foreign-born. In the absence of information relative to employment and hazards of occupation by nationality, it would appear that little or no significance should be attached to these particular figures; it may be noted, however, that proportionately native white labor predominates in Kentucky coal mines.

Generated on 2024-09-17 16:57 GMT / https://hdl.handle.net/2027/osu.32435030644082
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from THE OHIO STATE UNIVERSITY

DISCUSSION OF FATAL ACCIDENTS OF 1933

The details of the 96 fatal accidents for 1933, as listed in table 3, were studied and grouped in the following tables to show direct causes and, where possible, to indicate measures that will prevent future fatalities.

Roof Falls and Coal Bumps

It is notable that no fatalities were caused in 1933 by falls of coal from the top or ribs. During the year reports were made on 52 accidents caused by slate falls or coal bumps, which resulted in 54 fatalities (56 percent of the total). These accidents are summarized according to cause in table 5.

TABLE 5. - Fatalities from slate falls in Kentucky coal mines in 1933

Cause	Number of accidents	Number killed
Lack of inspection or attention to loose slate	15	17
Lack of systematic timber requirements	12	12
Caught by slate falling at time or soon after timber was knocked out	10	10
Slate fall after attempts to pull it down had been given up	5	5
Disobedience or disregard of instructions	5	5
No timber available	2	2
Top loosened by bump, killing new man	2	2
Poor supervision, inexperienced men scaling bad top ..	1	1
	52	54

1. In 15 accidents causing the death of 17 men, the chief factor was either lack of inspection of the roof or disregard of dangerous slate, which was apparently loose. In many instances no inspection was customary or required; in others, rules called for regular inspection by the men, but evidently observance was lax. Several deaths resulted from neglect to even attempt to take down or secure loose slate with timber, although attention had been called to the dangerous condition by inspectors; this is a fairly usual failure of supervision and one that should by all means be corrected.

2. The second greatest cause of such accidents was the lack of systematic timber requirements, with resultant death of 12 men; in these 12 cases, timbers were placed only when and where the miner or foreman thought necessary. Supervision was inadequate to insure proper timbering, and the men either were incapable of proper judgment or were careless of their own safety and that of others.

Generated on 2024-09-17 17:02 GMT / https://hdl.handle.net/2027/osu.32435030644082
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from THE OHIO STATE UNIVERSITY

3. Falling slate released by the removal of timbers already set caused 10 fatalities. In most of these instances the men knocked out a post with a hammer, pick, or ax and were caught as the post fell; in a few instances a post was removed, and the slate came down on the victim a short time later. In no case was there indication that the man tested the roof before the timber was knocked out.

4. Five deaths were due to passing or working under slate after an attempt to pull it down had failed. The loose rock was considered dangerous; but no other means were tried, and no timbers were set when a bar or pick would not bring it down. This also occurs rather frequently in coal mining more or less throughout the United States where coal is mined.

5. Disobedience or disregard of instructions resulted in 5 deaths. These men failed to set timbers or went into unsafe places in violation of direct orders to the contrary. In a great measure they were to blame for their own deaths, but some responsibility rests on the foremen for failure to require compliance with instructions. Unquestionably accidents will continue to occur as long as individuals continue to "use their own judgment" in defiance of instructions given by superiors who know or at least should know the hazards better than the individual.

6. In 2 instances no timbers were available, and the men tried to do without them; in these cases the blame must rest on the management for failure to see that proper supplies were available. This cause for accidents is far more common than it should be.

7. Coal bumps loosened slate which killed 2 men. In some instances this danger is regarded as a matter about which little can be done. Often men who through long experience are thoroughly familiar with the occurrence of coal bumps can tell when one is imminent and retreat to a safe place. Organized study of this hazard might be beneficial to coal-mine safety; in some instances a change in mining methods or in mining practices has eliminated bumps or bounces.

8. One man was killed while scaling bad top; he was inexperienced and had told the foreman so. Evidently the foreman did not fully appreciate the danger--a very definite case of failure of supervision, although one that has occurred often in the past and in many coal-mining States.

TABLE 6. - Place of occurrence of slate falls causing fatalities

Place	No. of fatalities from slate falls	Percentage of total fatalities from slate falls
At working face		
Room	25	46
Pillar	7	13
Entry	8	15
Roadway or entry	10	18
Room	4	8
	54	100

Generated on 2024-09-17 16:59 GMT / https://hdl.handle.net/2027/osu.32435030644082
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from THE OHIO STATE UNIVERSITY

The high percentage of falls in rooms over falls in pillar work probably was due to the comparatively small amount of pillar work done. The relatively high percentage of falls on haulageways was due largely to inadequate supervision in cleaning up large falls and to several cases in which motors or cars had knocked out posts; the latter hazard can usually be eliminated by setting timbers in niches in the rib or haulageways.

TABLE 7. - Occupations of men killed by slate falls

Occupation	Number killed	Occupation	Number killed
Loaders	39	Trackman	1
Machine crew	7	Shot firer	1
Haulage crew	3	Assistant foreman	1
Slatemen and timbermen ..	2	Total	54

It is evident that machinemen in Kentucky mines run a high risk from slate falls; this is largely due to lack of proper supervision and to the "dare devil" spirit of the usual machineman, who far too frequently has an attitude of superiority which prevents him from taking the precautions he should. In the long run, however, preventing this type of accident involves more careful and more efficient supervision of the machinemen and their work.

Prevention of Roof-Fall Accidents

Nothing new in coal-mine safety knowledge is needed to prevent most accidents from roof falls; and, although improvement has been noticeable in the last 2 or 3 years, further cooperation in the means already advocated by the Kentucky State Department of Mines, United States Bureau of Mines, and company and regional safety officials will save many lives of individual workers, as well as dollars and cents to both the industry and those who depend on it.

From the causes listed above, it appears that such ordinary preventive measures as the following would have prevented most of these fatalities:

1. Test and inspect roof regularly and carefully.

2. Attend to bad roof promptly and definitely.

3. Establish a definite requirement for the minimum timber to be set.

4. Before removing timbers, set others to take their place. Where this cannot be done, test the roof before knocking a post out, and in most cases use a rail, long pole, or other device for removing a timber, preferably a regular prop puller.

Generated on 2024-09-17 17:02 GMT / https://hdl.handle.net/2027/osu.32435030644082
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from THE OHIO STATE UNIVERSITY

5. Timber or take down unsafe rock and allow no one under it before it is made absolutely safe. Use wedges or explosives if needed.

6. Make supervision and discipline of first importance. Obtain co-operation of men who disregard instructions; otherwise, they should not be allowed to work.

7. Scale or timber bad roof only by or in the presence of capable bosses or men responsible for these duties.

Fatal Haulage Accidents

Haulage accidents caused 20 percent of the total fatalities in 1933. The 19 accidents from this cause are summarized in table 8.

TABLE 8. - Fatalities from haulage accidents in Kentucky mines, 1933

Cause	No. of accidents	No. killed
Crushed between top and locomotive, lack of clearance..	8	8
Wrecks and collisions	4	5
Caught between cars and rib, insufficient clearance ...	2	2
Run over getting on or off trip in motion	1	1
Blocks failed to hold loaded cars, crushed between cars	1	1
Run over by locomotive, leaned out to throw switch ...	1	1
Pushed trip, crushed against room face	1	1
	18	19

1. The most frequent cause of death in haulage accidents was being crushed between the top and locomotive. Lack of clearance, which required haulage crews to squeeze into spaces on the motor not intended for cab room, was the principal factor. Extension of head or hip above the frame led to several fatal accidents. This lack of clearance has been tolerated so long that it has come to be regarded as usual practice; however, several mines find it more efficient and economical, as well as safer, to brush the roof of haulageways in low coal. Unquestionably, giving greater height in haulageways is one of the greatest present-day needs in low coal mines; it is anything but logical to blame the victims for accidents due to lack of height in haulage-ways.

2. The second greatest cause of fatal haulage accidents was wrecks and collisions. Four accidents caused 5 deaths. A man was caught between a wrecked car and the rib; a motorman was caught by a pushed trip hitting his motor; another motorman was speeding and wrecked the trip; 11 loaded cars broke loose on a grade and hit a man-trip, killing 2. Many accidents of this type are due to poor track or to poor equipment; moreover, many haulage wrecks are caused by the recklessness or foolish practices of miners or haulagemen.

Generated on 2024-09-17 16:57 GMT / https://hdl.handle.net/2027/osu.32435030644082
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from THE OHIO STATE UNIVERSITY

3. Two men were crushed between cars and rib because of insufficient side clearance; this is a cause of haulage accidents for which the management is almost wholly responsible.

4. A trip rider was killed when he jumped ahead of a pushed trip to throw a switch; this is always a dangerous practice and one very generally in effect yet wholly unnecessary.

5. A miner left a loaded car on a grade with blocks, which failed to hold, under the wheels.

6. A motorman leaned out to throw a switch and was caught in a spot having insufficient clearance.

7. A pushed trip entered a room and caught a loader against the face.

Most of the haulage fatalities in Kentucky seem to have been caused by lack of clearance. Another important factor was unsafe practices, either permitted or unsupervised.

TABLE 9. - Occupations of men killed on haulage in 1933

Occupation	Number killed	Occupation	Number killed
Haulage crews	9	Laborers	2
Machine men	3	Shot firer	1
Miners	3	Face boss	1

It is significant that of the 19 persons killed in haulage accidents in Kentucky coal mines in 1933 only 9 were members of haulage crews.

Fatalities from Mining-Machine Accidents in 1933

Five men were killed by mining machines in 1933. Three of the accidents were similar; in two, machine helpers were killed, and in the other a loader. In each case the victim attempted to get on the cutter bar to ride while the machine was moving. Another machine helper was crushed against the rib by the machine when a jack fell out. The fifth man died of infection of a wound caused by a jack pipe falling on his leg.

The chief remedy indicated is to prohibit the practice of riding on the cutter bar. Present-day methods of transporting mining machines from place to place also appear to be unsafe.

Fatalities from Electric Shock in 1933

Electric shock caused 5 deaths in 1933 compared with 7 in 1931 and 6 in 1932. Four of the 5 deaths were due to low trolley wires and 1 to an electric drill short-circuited by a miner who, damp with sweat, was braced against a steel car.

Generated on 2024-09-17 16:57 GMT / https://hdl.handle.net/2027/osu.32435030644082
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from THE OHIO STATE UNIVERSITY

Contacts with trolley wire were: A laborer unloading timbers from a car in the mine raised up under the wire; another cleaning track on the main haulageway straightened up too far under the wire; a motorman whose carbide light was out touched the wire with his shoulder while turning the pole; a coupler riding on the locomotive in his usual place hit his head against the wire at a switch.

In all cases the wire was low and unguarded. The decision of the Mine Safety Board of the United States Bureau of Mines on this hazard recommends guarding all wires less than 6½ feet above the rail. Greater top clearance would allow the wire to be placed at least high enough to keep it from being a constant menace and would permit it to be guarded at the most needed points, sidings, and switches. Unquestionably, bare, unguarded power wires less than 6½ or 7 feet above the floor or the rail are a hazard which has been accepted as a necessity in mines but as a matter of fact is utterly unnecessary and should not be tolerated.

Explosives Fatalities in 1933

Two men were fatally injured in Kentucky coal mines in 1933 by faulty explosives practices. A loader remained too near the face after connecting the leg wires of a second hole for the shot firer; this was in a mine where electric shot firing was new. Coiling and uncoiling of the cable should be required for each shot. In the other instance premature explosion of a primer cartridge, caused probably by pulling on the leg wires to straighten them, resulted in movement of the ends in the detonator, which may have been faulty.

Gas Explosion in 1933

Three men of an engineering party went into an idle section to set some points on an "idle" day. Ventilation was inadequate, and no regular inspection of the section had been made. An open door may have contributed to an accumulation of gas, which was ignited by the open lights carried by the men. Closed lights only should be used, even in slightly gassy mines, and no one but a fire boss should be allowed to enter an uninspected area. As long as open lights are used in any kind of coal mine, whether gassy or so-called non-gassy, there are bound to be accidents more or less of the foregoing type, but often with even worse consequences.

Surface Fatalities in 1933

During 1933, 8 fatal accidents occurred on the surface at Kentucky coal mines. In 3 instances men were caught in the belts or flywheels of machinery; the victims were not mechanics and had no regular duties to perform about the machines. One man fell into a conveyor hole from which the cover had been left off; 2 men were killed by a runaway incline trip, caused by a derailment; 1 was fatally injured while helping to fight a tipple fire at a shaft head; 1 was struck by a falling pole; and 1 died from infection of a small scratch. Unquestionably all belts, wheels, or other moving parts of machinery in or around mines should be adequately guarded if feasible; this is accepted practice in nearly all industries now, and mining should not be excepted.

Generated on 2024-09-17 17:01 GMT / https://hdl.handle.net/2027/osu.32435030644082
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from THE OHIO STATE UNIVERSITY

Other Deaths from Natural Causes and Nonchargeable Cases

Two men died in the mines from heart failure, according to the reports. Two farmers obtaining coal for domestic use were suffocated by black blasting-powder smoke in unventilated workings. A boy was fatally burned by black blasting powder lighted in play while he was carrying a supply to another domestic "farm" mine.

CONCLUSIONS

Progress in accident reduction in Kentucky coal mining will be uncertain and irregular as long as those engaged in coal mining in Kentucky do not cooperate in obtaining adherence to safe working practices. Some of the companies actively and whole-heartedly enforce safety rules, setting examples which not only show the way but also the profits to be derived from safety in operation. Many of the workers cooperate actively; but others are inclined to follow their own inclinations, which may or may not be either safe or efficient.

As many of the mines of the State enjoy natural conditions for safe working, full advantage taken of every proven aid to accident reduction would greatly decrease the loss of life. A forward step has been made by the enactment of a new mining law, the full observance of which should do much toward reducing accidents and saving life in Kentucky mines. Changed conditions are also now in effect, and unquestionably others will ultimately be put into operation through the new codes under the National Industrial Recovery Act; if accident occurrence in Kentucky coal mines is to be decreased the utmost cooperation in safety is essential among the various forces now involved in the mining of the coal of Kentucky.

Generated on 2024-09-17 16:56 GMT / https://hdl.handle.net/2027/osu.32435030644082
Public Domain, Google-digitized / http://www.hathitrust.org/access_use#pd-google
Digitized by Google
Original from THE OHIO STATE UNIVERSITY